

IN THE CLAIMS:

1. (Currently Amended) An apparatus for the air circulation in double-glazed thermoinsulated walls, the apparatus comprising:

double-glazed thermoinsulated walls including at least an internal glass pane and an external glass pane, said internal glass pane being positioned parallel to said external pane such that said internal glass pane and second external glass pane define a space;

an air inlet opening exclusively in communication with said space and an inside environment, said air inlet opening being located at the bottom of said internal glass pane;

an air outlet opening in communication with the outside environment and located at the top of said external glass pane;

a tangential fan of reduced size extending substantially the full length of one of the thermoinsulated walls, said tangential fan being located within a fan housing defined at the top of said space, said tangential fan having a longitudinal opening in communication with said space for air intake from the inside environment, said fan being actuated such that air flows from said inside environment exclusively through said inlet opening into said space and exits into said outside environment via said outlet opening, whereby said space has a temperature equal to a temperature of said inside environment;

a motor for actuating said tangential fan;

a sensor detecting hygrothermal conditions of the air drawn in through said inlet opening via said tangential fan, said motor controlling a rotational speed of said tangential fan based on said hygrothermal conditions of said air detected via said sensor.

2. (Previously Presented) An apparatus according to claim 1, wherein said fan is suited to be driven at low rotational speed by an electrical motor drive fitted at an end of said housing.

3. (Currently Amended) An apparatus according to claim 2, ~~further comprising sensors wherein a portion of said sensor extends within said space detecting the hygrothermal conditions of the air, suited to control the start of said electrical motor drive activating said fan.~~

4. (Previously Presented) An apparatus according to claim 1, wherein said fan housing defines a fan outlet opening, said fan outlet opening being closed via a swinging closing member for preventing air from flowing back to the interior environment when said fan is not operative.

5. (Previously Presented) An apparatus according to claim 1, wherein said fan housing is defined by a substantially cylindrical sector shaped by a bearing element provided, in assembled setting, with a longitudinal opening turned to said space for the air intake through the space, and with an opposed opening for the air outlet to the outside.

6. (Previously Presented) An apparatus according to claim 5, wherein said bearing element is removably constrained to a frame which is steadily fixed peripherally to one of said thermoinsulated walls.

7. (Previously Presented) An apparatus according to claim 6, wherein said frame is

steadily fixed to a spacing means fitted between said second external pane of glass and an intermediate pane of glass, said second external pane being parallel to the intermediate pane such that said second external pane and said intermediate pane define a room inside the space, which is turned to the outside, for the insertion of a dimming element.

8. (Previously Presented) An apparatus according to claim 6, wherein said frame is provided with an opening turned to the inside, at the top of said space, and with an opposite external hole for the air outlet, said opening and said external hole longitudinally extending to substantially the full length of the same frame.

9. (Currently Amended) An apparatus according to claim 8, wherein said opening turned to the inside of said frame is closed by a removable inspection door, said inspection door defining a lower groove for engaging an upper edge of said internal pane of glass by the interposition of a gasket means, said inspection door defining a curved portion for engaging a corresponding folded edge of the frame, said sensor being connected to said inspection door such that a portion of said sensor extends within said space.

10. (Previously Presented) An apparatus according to claim 6, wherein a modular covering element is fitted externally to said frame, said modular covering element extending the full length of said thermoinsulated wall, said modular covering element defining a lower longitudinal opening for the air outlet.

11. (Previously Presented) An apparatus according to claim 5, wherein said bearing element is constituted by a light metal section.

12. (Currently Amended) An apparatus for circulating air, the apparatus comprising:  
double-glazed thermoinsulated walls including an internal glass pane having a bottom portion and an external glass pane having a top portion, said bottom portion of said internal glass pane defining an air inlet opening, ~~said air inlet being exclusively in communication with said space and an inside house environment;~~

a frame structure defining an air outlet opening in communication with an outside house environment, said air outlet opening being located adjacent said top portion of said external glass pane, said internal glass pane being positioned parallel to said external glass pane such that said internal glass pane is opposite said external glass pane, said internal glass pane, said external glass pane and said frame structure defining an airflow space, said air inlet opening being exclusively in communication with said airflow space and an inside house environment;

a fan housing located within said frame structure, said fan housing being disposed opposite said air outlet;

a tangential fan of reduced size extending substantially the full length of one of said thermoinsulated walls, said tangential fan being located within said fan housing, said tangential fan having a longitudinal opening in communication with said airflow space for air intake from said inside house environment via said air inlet opening;

an electrical motor located at an end of said fan housing for actuating said tangential fan;  
sensors detecting hygrothermal conditions of air, said electrical motor controlling a  
20 rotational speed of said tangential fan based on the hygrothermal conditions of said air sensed  
via said sensors such that air flows exclusively from said inside environment through said space  
to said outside environment via said outlet opening to maintain a temperature of said space  
equal to a temperature of said inside environment.

13. (Previously Presented) An apparatus according to claim 12, wherein said fan  
housing defines a fan outlet opening, said fan outlet opening being closed via a closing member  
pivotably connected to said fan housing for preventing air from flowing back to the interior  
environment when said fan is not actuated.

14. (Previously Presented) An apparatus according to claim 12, wherein said fan  
housing is substantially cylindrical, said fan housing defining a longitudinal opening in  
communication with said space for receiving air from said inside house environment, said fan  
housing defining an opening opposite said longitudinal opening for exhausting to the outside  
5 environment via said air outlet.

15. (Previously Presented) An apparatus according to claim 14, further comprising a  
spacing element fixed to said frame structure, said double-glazed walls including an intermediate  
glass pane, said spacing element being connected to said intermediate glass pane and said

external glass pane such that said intermediate glass pane is located at a spaced location from  
5 said external glass pane to define another interior glass space for receiving a dimming element,  
said external glass pane being parallel to said intermediate pane.

16. (Previously Presented) An apparatus according to claim 14, wherein said air outlet  
opening extends substantially the full length of the frame structure.

17. (Currently Amended) An apparatus according to claim 16, wherein a removable  
inspection door is connected to said frame structure, said removable inspection door defining  
a lower groove, said lower groove having a gasket located therein, said lower groove receiving  
an upper edge of said internal glass pane such that said gasket engages said upper edge of said  
5 internal glass pane, said inspection door defining a curved portion, said curved portion engaging  
a corresponding folded edge of said frame, one of said sensors having an air flow contacting  
portion, said one of said sensors having said air flow contacting portion being connected to said  
inspection door such that said air flow contacting portion is located within said airflow space,  
said electrical motor increasing said rotational speed of said tangential fan when said sensors  
10 detect an increased amount of moisture in the air.

18. (Previously Presented) An apparatus according to claim 14, wherein a modular  
covering element is connected externally to said frame, said modular covering element  
extending the full length of one of said thermoinsulated walls, said modular covering element

defining a lower longitudinal opening in communication with the air outlet opening.

19. (Currently Amended) An apparatus for circulating air, the apparatus comprising:

double-glazed thermoinsulated walls including a first glass pane and a second glass pane,  
said first glass pane having a surface exposed to a house interior environment, said second glass  
pane having a second glass pane surface exposed to an outside environment external to said  
house interior environment, said first glass pane being parallel to said second glass pane such  
that said first glass pane and said second glass pane define an interior glass pane space, said first  
glass pane having a bottom first glass portion defining an air inlet, said second glass pane having  
a top second glass portion;

a frame structure defining an exhaust outlet located opposite said top second glass  
portion;

a fan housing located within said frame structure;

a tangential fan located within said fan housing, said tangential fan extending  
substantially along one of said double-glazed thermoinsulated walls, said tangential fan being  
in communication with said interior glass pane space and said exhaust outlet, said air inlet being  
in communication with only said interior glass pane space and said house interior environment  
and said exhaust outlet being in communication with said outside environment to define an air  
flow path, said tangential fan being actuated such that air flows from said house interior  
environment to said outside environment via said air flow path, said interior glass pane space  
having a temperature equal to a temperature of said house interior environment;

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an electrical motor connected to said tangential fan;

a plurality of sensors, each sensor detecting hygrothermal conditions of air, said electrical motor actuating said tangential fan such that said fan draws air only from said house interior environment based on said hygrothermal conditions detected by said plurality of sensors.

20. (Currently Amended) An apparatus according to claim 19, further comprising:

~~an electrical motor connected to said tangential fan;~~

~~a plurality of sensors, each sensor detecting hygrothermal conditions of air, said electrical motor actuating said tangential fan such that said fan draws air only from said house interior environment based on said hygrothermal conditions detected by said plurality of sensors~~

an inspection door detachably connected to said frame structure, each sensor having an air contact portion, each sensor being connected to said inspection door such that said air contact portion extends within said interior glass pane space, said electrical motor increasing a rotational speed of said tangential fan when said plurality of sensors detect an increased humidity content in the air, said hygrothermal conditions of the air including temperature of the air and humidity of the air.

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